

Abstract of the Disclosure

A digital hearing impairment simulation method and a hearing aid evaluation method using the same are disclosed. According to the digital hearing impairment simulation method, a hearing characteristic table of a hearing impaired person is input and the input table is stored in a memory, in order to sample the hearing characteristics of the hearing impaired person (S1). A hearing loss table is calculated and stored in the memory (S2). An audio signal input via an audio input portion is converted to a digital signal and the converted digital signal is stored in the memory (S3). The converted digital signal is converted to the frequency domain signal using a fast Fourier transform algorithm (S4). The average power by critical band is calculated (S5). A hearing loss gain for each critical band is calculated using the hearing loss table and the average powers of the critical bands (S6). Coefficients for a digital filter corresponding to the hearing loss gains of the critical bands is calculated (S7). The input signal converted to a digital signal and stored in the memory in the step (S3) is digitally filtered using the digital filter coefficients (S8). The digitally filtered signal is converted to an analog signal and the converted analog signal is output to an audio output portion (S9). Thus, the performance of a hearing aid can be easily evaluated and hearing characteristics of a hearing impaired person can be easily sampled.